29-Okt-2021

Des Gillen
President
BP-Husky Refining LLC
4001 Cedar Point Road
Oregon, OH 43616
P 567.698.4529
des.gillen@se1.bp.com

City of Toledo
Division of Environmental Services
348 S. Erie Street
Toledo, OH 43604
Attn.: Peter Park

RE: CMS Summary & Data Assessment Report – 3rd Quarter 2021

Dear Sir or Madam:

Attached is the revised CMS Summary Report and Data Assessment Report for BP-Husky Refining LLC for the period of July 1, 2021 through September 30, 2021.

CMS Summary Report (Attachment A)
A complete list of emissions units and pollutants monitored are in Table 1; Summary Reports are included in Attachment A. Excess Emissions and Monitoring Systems Performance Report is not required under 40 CFR 60.7(d) if the total duration of excess emissions is less than 1% and the CMS downtime is less than 5% of the total operating time for the quarter. Unless where noted in Table 1, these criteria were met for the units listed. All future reports will have downtime and excess emissions for gases reported in hours as described in 40 CFR 60.7(d).

Table 1. Emission Units and Pollutants Monitored

Location/Emission Unit	Parameter	Quarter 3 2021 Downtime (% unit operating time)	Notes
TIU Fuel Gas Mix Drum	H_2S in Fuel Gas		
- B015 - Crude 1 Furnace		0.05	
- B017 - Coker 2 Furnace		0.05	
- B019 - Crude Vac 2 Furnace		0.05	
- B022 - Naphtha Treater Furnace		0.05	
- B029 - DHT A-Train Furnace		0.05	
- B030 - BGOT Furnace		0.05	
- B031 - Vac 1 Furnace		0.05	
- B032 - Coker 3 Furnace		0.05	
- B033 - East B-GOT Furnace		0.05	
- B034 – East Alstom Boiler		0.00	
- B035 – West Alstom Boiler		0.05	
- P007 - FCC/CO Boiler		0.05	

Location/Emission Unit	Parameter	Quarter 2 2021 Downtime (% unit operating time)	
TIU Fuel Gas Mix Drum	Total Sulfur in Fuel Gas		
- B015 - Crude 1 Furnace		0.27	
- B019 - Crude Vac 2 Furnace		0.30	
- B022 - Naphtha Treater Furnace		0.27	
- B029 - DHT A-Train Furnace		0.27	
- B030 - BGOT Furnace		0.30	
- B031 - Vac 1 Furnace		0.27	
- B032 - Coker 3 Furnace		0.28	
- B033 - East B-GOT Furnace		0.30	
- B034/B035 – East & West Alstom Boilers		0.27	
East Side Fuel Gas Mix Drum	H_2S in Fuel Gas		
- B008 - Iso 2 Feed Heater		0.00	
- B009 - Iso 2 Stabilizer Reboiler		0.00	
- B010 - Iso 2 Splitter Reboiler		0.00	
B036 - Reformer 3 Furnace	H_2S	0.05	
P003 - East Flare (see note A)	H_2S	0.09	
P003 - East Flare	Total Sulfur	0.72	
P004 – West Flare Vent Gas (see note A)	H_2S	0.18	
P004 – West Flare “C-Valve” Vent Gas	H_2S	0.05	
P004 – West Flare Vent Gas	Total Sulfur	0.45	
P004 – West Flare “C-Valve” Vent Gas	Total Sulfur	0.27	
B036 – Reformer 3 Furnace	NOx	0.00	
P007 – FCCU/CO Boiler Bypass (see note B)	CO	0.00	
P007 – FCCU/CO Boiler Bypass (see note B)	NOx	0.00	
P007 – FCCU/CO Boiler Bypass (see note B)	SO_2	0.00	
P007 – CO Boiler Exhaust	CO	0.00	
P007 – CO Boiler Exhaust	NOx	0.00	
P007 – CO Boiler Exhaust	SO_2	0.00	
P009 - Sulfur Recovery Unit with #1	SO_2	0.05	Excess emissions > 1%
P037 - Sulfur Recovery Units #2 & #3	SO_2	0.09	
B034 – East Alstom Boiler (see note C)	NOx	0.00	
B035 – West Alstom Boiler (see note C)	NOx	0.00	

Note A: P003/P004 East & West Flare
The attached H_2S tables identify all emissions in excess of the Subpart Ja H_2S limit of 162 ppm_v on a 3-hour rolling average. If an event did not occur for 3 consecutive hours, then it does not meet the 3-hour averaging requirement and therefore is not considered excess emissions. If a 3-hour event exceeds the 100,000 ppm_v span limit of the H_2S CMS, then the Total Sulfur analyzer data was used for the H_2S value.

Note B: P007 – FCCU/CO Boiler Bypass
The purpose of these CEMS are to continuously monitor the listed (CO, NOx, & SO_2) emissions from the FCCU Regenerator exhaust in the event of a CO Boiler bypass while there is feed to the FCCU. Otherwise, compliance with the listed limits for the FCCU is determined from continuous emissions monitoring of the CO Boiler Exhaust stack. Although this source is not subject to 40 CFR Part 60, Section C.12.(d)(7) of P0104782 (as set forth by Permits-to-Install 04-01290 and P0105902) requires monitoring per 40 CFR Part 60.11. As

noted in Section C.12.(e)(4) of P0104782, the refinery has opted to follow the reporting requirements under 40 CFR 60.7. 40 CFR 60.7(c) requires the submission of an Excess Emissions and Monitoring Systems Performance Report and Summary Report Form.

Note C: B034/B035 East & West Alstom Boiler
The attached data tables include supplemental reporting for NOx CEMS records required by 40CFR49b(i).

Details of all downtime or excess emission incidents are provided in the summary tables in Attachment A.

Data Assessment Report (Attachment B)

In accordance with the terms and conditions of their permits, Attachment B includes the Continuous Emission Monitor (CEM) Data Assessment Report (DAR) for this quarter. Table 2 below is a summary of Cylinder Gas Audits conducted this quarter. Where noted in Table 2, Relative Accuracy Test Audits (RATAs) were conducted this quarter; these reports were submitted previously via Air Services.

Table 2. Cylinder Gas Audit Summary

Location/Emission Unit	Parameter	Notes
East Side Fuel Gas Mix Drum (B008, B009, B010)	H2S	
TIU Fuel Gas Mix Drum (B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007)	H_2S	
B036 - Reformer 3 Heater H2S CMS	H_2S	
P003 - East Flare	H_2S	
P004 - West Flare	H_2S	
P003 - East Flare (low & high ranges)	Total Sulfur	
P004 - West Flare (low & high ranges)	Total Sulfur	
TIU Fuel Gas Mix Drum (B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007)	Total Sulfur	
B036 - Reformer 3 NOx/O2 CEMS	NOx, O_2	
B034 - East Alstom Boiler	NOx, O_2	
B035 - West Alstom Boiler	NOx, O_2	
P007 - FCCU/CO Boiler	SO_2, NOx, CO, O_2	
P007 - FCC Regen Line	SO_2, NOx, CO, CO_2, O_2	
P009 - SRU #1	SO_2, O_2	
P037 - SRU #2 & #3 (TRP SRU)	SO_2, O_2	

The DAR also includes out-of-control (OOC) times for the FCCU/CO Boiler CO CEMS, FCC Regen Line CO, O_2, & CO_2 CEMS, the SRU#1 SO_2 & O_2 CEMS, and the TRP SRU SO_2 & O_2 CEMS based on the OOC requirements defined by the MACT general requirements, 40 CFR Part 63.8(c)(7).

CEMS calendar tons reporting

During our Title V permit review and renewal process, the requirement to include calendar tons per quarter for certain pollutants was identified. This has not been included in prior quarterly CMS reports but the information is available, if requested. Table 3 below includes the required information.

Table 3. CEMS Reporting requirement with calendar tons

Page	Citation	EU	Description	Language	Tons/qtr
63	B.5.b)(2)b.v	B036	Reformer Heater	Units subject to NSPS Ja NOx monitoring - quarterly reports require "the total NOx emissions for the calendar quarter (tons)" to be included with the quarterly EER for NOx CEMs	6.66
181	c.12.e)(2)b.v	P007	FCCU	Quarterly EER required for SO2 CEM requires "the total SO2 emissions for the calendar quarter (tons)" to be included	117.67
183	c.12.e)(4)b.v	P007	FCCU	Quarterly EER required for NOx CEM requires "the total NOx emissions for the calendar quarter (tons)" to be included	50.56
485	c.40.e)(5)b.v	P003/P004	East/West Flare	Quarterly EER required for H2S CEM requires "the total hydrogen sulfide emissions for the calendar quarter (tons)" to be included	0.01
487	c.40.e)(6)b.v	P003/P004	East/West Flare	Quarterly EER required for Total Sulfur CEM requires "the total sulfur emissions for the calendar quarter (tons)" to be included	0.66

If you have any questions concerning this report, please contact Joan Anderson (joan.anderson@bp.com or 567-698-4405), or Hannah Placzek (Hannah.placzek@bp.com).

Based on information and belief formed after reasonable inquiry, the statements and information in this report are true, accurate, and complete.

Sincerely,

DocuSigned by:
Des Gillen
90F20640AD13450...

Des Gillen
President - BP-Husky Refining LLC

Attachment A – CMS Summary Report
Attachment B – Data Assessment Report

Attachment A – CMS Summary Report

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Crude 1 Furnace (0448020007B015)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.68	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Coker 2 Furnace (0448020007B017)

Total Source Operating Time in Reporting Period[2]: 1,994 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.75	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Crude Vac 2 Furnace (0448020007B019)

Total Source Operating Time in Reporting Period[2]: 2,024 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.74	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Naphtha Treater Furnace (0448020007B022)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.68	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90E20640AD13459...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: DHT A-Train Furnace (0448020007B029)

Total Source Operating Time in Reporting Period[2]: 2,208 hr (TIU fuel gas was combusted for 2,208 hours and natural gas was combusted for 0 hours for a total of 2,208 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.68	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: BGOT Furnace (0448020007B030)

Total Source Operating Time in Reporting Period[2]: 2,001 hr (TIU fuel gas was combusted for 2,001 hours and natural gas was combusted for 0 hours for a total of 2,001 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.75	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Vac 1 Furnace (0448020007B031)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.68	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Coker 3 Furnace (0448020007B032)

Total Source Operating Time in Reporting Period[2]: 2,122 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.71	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: East BGOT Furnace (0448020007B033)

Total Source Operating Time in Reporting Period[2]: 1,999 hr

Emission Data Summary		**CMS Perfomance Summary**	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.75	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: East Alstom Boiler (0448020007B034)

Source Operating Time in Reporting Period[2]: 2,208 hr (TIU fuel gas was combusted for 0 hours and natural gas was combusted for 2,208 hours for a total of 2,208 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assu s	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The East Alstom Boiler combusted only natural gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: West Alstom Boiler (0448020007B035)

Total Source Operating Time in Reporting Period[2]: 2,208 hr (TIU fuel gas was combusted for 2,208 hours and natural gas was combusted for 0 hours for a total of 2,208 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The West Alstom Boiler combusted only TIU Mix Drum fuel gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: FCC/CO Boiler (0448020007P007)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		**CMS Perfomance Summary**	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.68	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - TIU MIX DRUM H2S CMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B015 - Crude 1 Furnace; **B019** - Crude 2 Furnace; **B022** - Naphtha Treater Furnace; **B029** - DHT A - Train Furnace **B030** - DHT B - Train Furnace; **B031** - Vac 1 Furnace; **B032** - Coker 3 Furnace **B033** - East BGOT Furnace; **B035** - West Alstom Boiler; **P007**- FCC/CO Boiler	Yes	No	Continuous Monitoring System	8/6/2021 10:00	8/6/2021 11:00	CEMS Downtime for 1 Hour.	CGA test completed	Recalibrated and Returned Analyzer to service.	No	N/A	N/A
B015 - Crude 1 Furnace; **B019** - Crude 2 Furnace; **B022** - Naphtha Treater Furnace; **B029** - DHT A - Train Furnace **B030** - DHT B - Train Furnace; **B031** - Vac 1 Furnace; **B032** - Coker 3 Furnace **B033** - East BGOT Furnace; **B035** - West Alstom Boiler; **P007**- FCC/CO Boiler	Yes	No	Continuous Monitoring System	7/28/2021 18:00	7/29/2021	CEMS excess emissions for 6 hours	EPA Amine control valve (PCV 3405B) failed open to the West Hydrocarbon Flare. This failure resulted in the acid gas stream to enter the hydrocarbon flare system.	Coker feed rates were reduced, antifoam was injected and flares were separated .	Yes	7/29/2021	7/29/2021
B015 - Crude 1 Furnace; **B019** - Crude 2 Furnace; **B022** - Naphtha Treater Furnace; **B029** - DHT A - Train Furnace **B030** - DHT B - Train Furnace; **B031** - Vac 1 Furnace; **B032** - Coker 3 Furnace **B033** - East BGOT Furnace; **B035** - West Alstom Boiler; **P007**- FCC/CO Boiler	Yes	No	Continuous Monitoring System	8/10/2021 18:00	8/10/2021 23:00	CEMS excess emissions for 5 hours	the East Flare Gas recovery compressors tripped off due to loss of the PLC sending excess material to the Bulk Amine Contactor.	ADCON engineers were immediately notified and were able to restart the PLC and both compressors were brought online.	Yes	8/10/2021	8/18/2021
B015 - Crude 1 Furnace; **B019** - Crude 2 Furnace; **B022** - Naphtha Treater Furnace; **B029** - DHT A - Train Furnace **B030** - DHT B - Train Furnace; **B031** - Vac 1 Furnace; **B032** - Coker 3 Furnace **B033** - East BGOT Furnace; **B035** - West Alstom Boiler; **P007**- FCC/CO Boiler	No	Yes	Continuous Monitoring System	8/19/2021 16:00	8/19/2021 20:00	CEMS excess emissions for 4 hours	The bulk amine contactor was operating at high rates when a large amount of material was released to the West flare gas recovery system.	Coker feed rates were reduced.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 34.53 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 9/1/2021

Process Unit(s) Description: Crude 1 Furnace (0448020007B015)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	6
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	6
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.27

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 21.02 tons SO_2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 9/1/2021

Process Unit(s) Description: Crude Vac 2 Furnace (0448020007B019)

Total Source Operating Time in Reporting Period[2]: 2,024 hr

Emission Data Summary		**CMS Perfomance Summary**	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	6
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	6
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.30

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen
90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 6.45 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 9/1/2021

Process Unit(s) Description: Naphtha Treater Furnace (0448020007B022)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	6
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	6
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.27

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90E20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 2.32 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 9/1/2021

Process Unit(s) Description: DHT A-Train Furnace (0448020007B029)

Total Source Operating Time in Reporting Period[2]: 2,208 hr (TIU fuel gas was combusted for 2,208 hours and natural gas was combusted for 0 hours for a total of 2,208 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	6
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	6
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.27

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD03450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 3.86 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 9/1/2021

Process Unit(s) Description: BGOT Furnace (0448020007B030)

Total Source Operating Time in Reporting Period[2]: 2,001 hr (TIU fuel gas was combusted for 2,001 hours and natural gas was combusted for 0 hours for a total of 2,001 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	6
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	6
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.30

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F2064...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 11.62 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 9/1/2021

Process Unit(s) Description: Vac 1 Furnace (0448020007B031)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	6
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	6
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.27

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 20.46 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 9/1/2021

Process Unit(s) Description: Coker 3 Furnace (0448020007B032)

Total Source Operating Time in Reporting Period[2]: 2,122 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	6
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	6
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.28

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 3.86 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 9/1/2021

Process Unit(s) Description: East BGOT Furnace (0448020007B033)

Total Source Operating Time in Reporting Period[2]: 1,999 hr

Emission Data Summary		**CMS Perfomance Summary**	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	6
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	6
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.30

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 3.86 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 9/1/2021

Process Unit(s) Description: East Alstom Boiler (0448020007B034) and West Alstom Boiler (0448020007B035)

Source Operating Time in Reporting Period[2]: 2,208 hr (TIU fuel gas was combusted for 2,208 hours in at least one of the Alstom Boilers for the quarter. Natural gas was combusted for 0 hours in both Alstom Boilers for the quarter.)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assu s	0
d. Other known causes	0	d. Other known causes	6
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	6
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.27

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The East Alstom Boiler combusted only natural gas this quarter and the West Alstom Boiler combusted only TIU MD Fuel Gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90E80640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - TIU MIX DRUM TS CMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B015 - Crude 1 Furnace; **B022** - Naphtha Treater Furnace; **B029** - DHT A - Train Furnace **B030** - DHT B - Train Furnace; **B031** - Vac 1 Furnace; **B032** - Coker 3 Furnace **B033** - East BGOT Furnace; **B034/B035** - East and West Alstom Boilers; **P007**- FCC/CO Boiler	Yes	No	Continuous Monitoring System	7/19/2021 10:00	7/19/2021 14:00	CEMS Downtime for 4 Hours.	Semi-annual PM	Recalibrated and Returned Analyzer to service.	No	N/A	N/A
B015 - Crude 1 Furnace; **B022** - Naphtha Treater Furnace; **B029** - DHT A - Train Furnace **B030** - DHT B - Train Furnace; **B031** - Vac 1 Furnace; **B032** - Coker 3 Furnace **B033** - East BGOT Furnace; **B034/B035** - East and West Alstom Boilers; **P007**- FCC/CO Boiler	Yes	No	Continuous Monitoring System	7/19/2021 15:00	7/19/2021 17:00	CEMS Downtime for 2 Hours.	Semi-annual PM	Recalibrated and Returned Analyzer to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Iso 2 Feed Heater (0448020007B008)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Iso 2 Stabilizer Reboiler (0448020007B009)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Iso 2 Splitter Reboiler (0448020007B010)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST SIDE MIX DRUM H2S CMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B008 - Iso 2 Feed Heater **B009** - Iso 2 Stabilizer Reboiler **B010** - Iso 2 Splitter Reboiler	Yes	No	Continuous Monitoring System	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30029994471080

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 2,208 hr (Reformer 3 fuel gas was combusted for 2,208 hours and natural gas was combusted for 0 hours for a total of 2,208 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The Reformer 3 furnace combusted only Reformer 3 fuel gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 60 ppmv H_2S in fuel gas on a 365-day rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30029994471080

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.0

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The Reformer 3 furnace combusted only Reformer 3 fuel gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F2664AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - REFORMER 3 FURNACE H2S CMS REPORT FOR 3RD

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B036 - Reformer 3 Furnace	Yes	No	Continuous Monitoring System	7/23/2021 10:00	7/23/2021 11:00	CEMS Downtime for 1 Hour.	Low sample flow	Pulled inline sample filter, cleaned, and returned to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30050531960100

Date of Latest CMS Certification or Audit: 8/9/2021

Process Unit(s) Description: East Flare (0448020007P003)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	5	c. Quality assurance calibration	2
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	5	2. Total CMS Downtime	2
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.23	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.09

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST FLARE H2S CMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P003 - East Flare	No	Yes	Continuous Monitoring System	8/9/2021 10:00	8/9/2021 12:00	CEMS Downtime for 2 Hours.	CGA test completed	Recalibrated and Returned Analyzer to service.	No	N/A	N/A
P003 - East Flare	Yes	No	Continuous Monitoring System	9/7/2021 19:00	9/7/2021 22:00	CEMS excess emissions for 3 hours	Ethane carry over to the Sat DeC3 tower	Reduced feed to the tower and made adjustments in the upstream operations until the upset was resolved.	No	N/A	N/A
P003 - East Flare	Yes	No	Continuous Monitoring System	7/23/2021 7:00	7/23/2021 9:00	CEMS excess emissions for 2 hours	Upset in Sat Gas Plant	Multiple operational adjustments were made to the Absorber Stripper tower to reduce ethanes and purge them out of the system.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO_2 emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-10430115

Date of Latest CMS Certification or Audit: TS Low: 8/23/2021; TS High: 8/23/2021

Process Unit(s) Description: East Flare (0448020007P003)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	5
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	6
d. Other known causes	NA	d. Other known causes	5
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	16
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.72

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST FLARE TS CMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P003 - East Flare	No	Yes	Continuous Monitoring System	8/13/2021 10:00	8/13/2021 11:00	CEMS Downtime for 1 Hour.	Recalibrate for drift	Recalibrated and Returned Analyzer to service.	No	N/A	N/A
P003 - East Flare	No	Yes	Continuous Monitoring System	8/23/2021 9:00	8/23/2021 15:00	CEMS Downtime for 6 Hours.	CGA test completed	Recalibrated and Returned Analyzer to service.	No	N/A	N/A
P003 - East Flare	No	Yes	Continuous Monitoring System	9/29/2021 14:00	9/29/2021 18:00	CEMS Downtime for 4 Hours.	Semi annual PM.Replace sample injection valves	Recalibrated and Returned Analyzer to service.	No	N/A	N/A
P003 - East Flare	No	Yes	Continuous Monitoring System	9/30/2021 14:00	9/30/2021 19:00	CEMS Downtime for 5 Hours.	Repaired sample leak on high gas validation cycle.	Recalibrated and Returned Analyzer to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30050531960400

Date of Latest CMS Certification or Audit: 8/10/2021

Process Unit(s) Description: West Flare Vent Gas (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		**CMS Perfomance Summary**	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	3
d. Other known causes	0	d. Other known causes	1
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	4
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.18

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 8/31/2021

Process Unit(s) Description: West Flare C Valve (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	0
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	1
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA[4]	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

[4] Excess emissions are reported in the West Flare Vent Gas section, and are not included in this section to avoid double counting.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST FLARE H2S CMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P004 - West Flare	No	Yes	Continuous Monitoring System	7/7/2021 8:00	7/7/2021 9:00	CEMS Downtime for 1 Hour.	Revalidation following vent piping work	Recalibrated and Returned Analyzer to service.	No	N/A	N/A
P004 - West Flare	Yes	No	Continuous Monitoring System	8/10/21 9:00	8/10/21 12:00	CEMS Downtime for 3 Hours.	CGA test completed	Recalibrated and Returned Analyzer to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO2 emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-10440115

Date of Latest CMS Certification or Audit: TS Low: 8/24/2021; TS High: 8/24/2021

Process Unit(s) Description: West Flare Vent Gas (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	0
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	10
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	10
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.45

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO2 emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 9/1/2021

Process Unit(s) Description: West Flare C Valve (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	0
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	6
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	6
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.27

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20840AD13450

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST FLARE TS CMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P004 - West Flare	Yes	No	Continuous Monitoring System	7/14/21 9:00	7/14/21 11:00	CEMS Downtime for 2 Hours.	Semi-annual PM	Recalibrated and Returned Analyzer to service.	No	N/A	N/A
P004 - West Flare	Yes	No	Continuous Monitoring System	7/22/21 9:00	7/22/21 11:00	CEMS Downtime for 2 Hour.	Recalibrate for drift	Recalibrated and Returned Analyzer to service.	No	N/A	N/A
P004 - West Flare	Yes	No	Continuous Monitoring System	9/27/21 9:00	9/27/21 15:00	CEMS Downtime for 6 Hours.	PM-Replace sample pump	Recalibrated and Returned Analyzer to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 40 ppm_{vd} (30-day rolling average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Date of Latest CEMS Certification or Audit: 8/6/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		**CEMS Perfomance Summary**	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CEMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - REFORMER 3 FURNACE NOx CEMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B036 - Reformer 3 Furnace	Yes	No	Continuous Emission Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: CO

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 500 ppmv CO, db, 1-hr average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB URAS 14, SN: 3.240684.3

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	4
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	4
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.
Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT CO CEMS REPORT 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	Bypass Stack not in operation during the quarter, therefore no excess emissions or part 60 CEMS downtime to report.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 58.1 ppmv NOx db @ 0% O2 (365-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240682.3

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	4
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 93.4 ppmv NOx db @ 0% O2 (7-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240682.3

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	4
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT NOx CEMS REPORT 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	Bypass Stack not in operation during the quarter, therefore no excess emissions or part 60 CEMS downtime to report.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 260 ppmvd SO2 at 0% excess O2 as a rolling 7-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	4
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 160 ppmvd SO2 at 0% excess O2 as a rolling 365-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	4
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 1,020 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	4
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.92 lb SO2 per 1000 lb of fresh feed

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	4
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT SO2 CEMS REPORT 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	Bypass Stack not in operation during the quarter, therefore no excess emissions or part 60 CEMS downtime to report.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: CO

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 500 ppmv CO, db, 1-hr average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB URAS 26, SN: 3.347698.3

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		**CEMS Perfomance Summary**	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER CO CEMS REPORT 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 93.4 ppmv NOx db @ 0% O2 (7-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 58.1 ppmv NOx db @ 0% O2 (365-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		**CEMS Perfomance Summary**	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER NOx CEMS REPORT 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 260 ppmvd SO2 at 0% excess O2 as a rolling 7-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 160 ppmvd SO2 at 0% excess O2 as a rolling 365-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 1,020 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.92 lb SO2 per 1000 lb of fresh feed

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 8/11/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER SO2 CEMS REPORT 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 250 ppm SO_2 dry, 0% excess O_2 (12-hour average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Ametek Model 919, SN: ZB-919SP-10541-1

Date of Latest CEMS Certification or Audit: 8/2/2021

Process Unit(s) Description: #1 Claus Sulfur Recovery Unit with SCOT Unit (0448020007P009)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	215	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	1
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	215	2. Total CEMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	9.74	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC SRU #1 SO2 CEMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	9/20/2021 10:00	9/20/2021 11:00	CEMS Downtime for 1 Hour.	Monthly and quarterly PM completed	Recalibrated and Returned Analyzer to service.	No	N/A	N/A
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	7/12/2021 15:00	7/21/2021 14:00	CEMS excess emissions for 215 hours	Planned Start-up/Shutdown	Normal start-up/shutdown operational procedures were followed.	No	N/A	N/A

Excess Emission and Monitoring System Performance Report
SRU1 SO2 CEMS Report (Source # P009)
3Q 2021

In accordance with the applicable PTIs for this source, written reports of excess emissions shall include the following information:

1. The magnitude of excess emissions computed in accordance with §60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

During the 3rd quarter of 2021, SRU1 operated for a total of 2,208 hours. There was one (1) period of excess emissions for a total of 215 hours, which accounted for 9.74% of the source's operating time.

- 7/12/2021 at 15:00 hours to 7/21/2021 at 14:00 hours
- Duration: 215 hours

2. Specific identification of each period of excess emissions that occurs during start-ups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

There was one period of excess emissions for this CEMS associated with a planned start-up and shutdown and it is listed below. Normal start-up/shutdown procedures were followed.

- 7/12/2021 at 15:00 hours to 7/21/2021 at 14:00 hours
- Duration: 215 hours

3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

While SRU1 was in operation, there was one (1) period of CEMS downtime. The details of this period of CEMS inoperability is detailed below:

- On September 20, 2021 at 10:00 hours, the analyzer was down due to quarterly and monthly preventative maintenance. Maintenance was completed and the analyzer was recalibrated and returned to service at 11:00 hours.
- Duration: 1 hour

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 250 ppm SO_2 dry, 0% excess O_2 (12-hour average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Ametek Model 919 and WDG-V, SN: ZX-919-10814-1

Date of Latest CEMS Certification or Audit: 8/2/2021

Process Unit(s) Description: Sulfur Recovery Units # 2 & #3 with TGT #2 (0448020007P037)

Total Source Operating Time in Reporting Period[2]: 2,208 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	2
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	2
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.09

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC SRU #2 & SRU #3 SO2 CEMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID / Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P037 - Sulfur Recovery Units #2 & #3	Yes	No	Continuous Emission Monitoring System (CEMS)	9/20/2021 13:00	9/20/2021 15:00	CEMS Downtime for 2 Hours.	Monthly and quarterly PM completed.	Recalibrated and Returned Analyzer to service.	No	N/A	N/A

Additional Information Required under PTI # 04-1046

1. **Total SO_2 emissions during calendar quarter (in tons), including any excess emissions attributed to the malfunction, startup, or shutdown of emissions unit P037. (ST&C III.A.iii)**

   Total SO_2 emissions from the TRP SRUs during the period July 1, 2021 through September 30, 2021 were calculated at 11.1 tons.

2. **Total operating time of the CEMS while either SRU was online. (ST&C III.A.iii)**

   During the quarter, the total source operating time while either or both SRUs were in service was 2,208 hours. The CEMS was online and monitoring for 2,206 hours while either SRU was in service.

   During the quarter, there were no periods of CEMS out-of-control time and one (1) period of CEMS downtime for a total duration of 2 hours. Details of this event are summarized in the table attached.

3. **Quantification of emissions routed from the SRU to the flare beginning with activation of the relief valve until the release is over. (ST&C VII.A)**

   There were no periods during the 3rd quarter when acid gas was sent to the TRP Acid Gas flare.

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Monitor Location: Sample port on East Alstom Boiler Stack; monitor housed at ground level in an analyzer building adjacent the boiler.

Date of Latest CMS Cert or Audit: 7/20/2021

Process Unit(s) Description: East Alstom Boiler (0448020007B034)

Total Source Operating Time in Reporting Period: 2,208 hr (TIU fuel gas was combusted for 0 hours and natural gas was combusted for 2,208 hours for a total of 2,208 hours this quarter)

CMS operating time while emission unit was in operation: 2,208 hr

Emission Limitation: 12.71 lb/hr of NO_x emissions;
38.5 tons/rolling 12-month period of NO_x emissions (combined B034 & B035);
0.10 lb NO_x (as NO_2) per mmBtu heat input 30-day rolling average

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - No changes since last quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST ALSTOM BOILER NOx CEMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B034 - Eest Alstom Boiler	Yes	No	Continuous Monitoring System	No downtime or excess emissions during this reporting quarter.							

East Alstom Boiler - 3rd Quarter 2021 Db Data

NSPS Db: Supplemental Reporting for NO_x CEM Records as required by 40 CFR 49b(i)

This table contains the information required by 60.49(g)(1-8).
Records for (g)(9-10) are provided in the NSPS Quarterly CEMS Report.

East Alstom Boiler (B034): 353 MMBtu/hr heater fired with refinery fuel gas and/or natural gas

Calculation Methodology: NO_x emissions (lb/mmbtu) calculated from NO_x CEM (ppm) using Methodology in 40 CFR 60 Appendix A Method 19 and F factor of 8710 dscf/mmbtu from Method 19 Table 19-1 when natural gas fired; site-specific F factor determined from fuel analysis when refinery fuel gas fired.

NSPS Limit: 0.10 lb NO_x/MMBtu

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
7/1/2021	0.021	0.022	No	No	
7/2/2021	0.023	0.022	No	No	
7/3/2021	0.025	0.022	No	No	
7/4/2021	0.023	0.023	No	No	
7/5/2021	0.022	0.022	No	No	
7/6/2021	0.022	0.022	No	No	
7/7/2021	0.022	0.022	No	No	
7/8/2021	0.022	0.022	No	No	
7/9/2021	0.022	0.022	No	No	
7/10/2021	0.024	0.022	No	No	
7/11/2021	0.022	0.022	No	No	
7/12/2021	0.022	0.022	No	No	
7/13/2021	0.022	0.022	No	No	
7/14/2021	0.021	0.023	No	No	
7/15/2021	0.020	0.023	No	No	
7/16/2021	0.019	0.023	No	No	
7/17/2021	0.020	0.023	No	No	
7/18/2021	0.019	0.022	No	No	
7/19/2021	0.022	0.022	No	No	
7/20/2021	0.019	0.022	No	No	
7/21/2021	0.017	0.022	No	No	
7/22/2021	0.016	0.022	No	No	
7/23/2021	0.016	0.021	No	No	
7/24/2021	0.017	0.021	No	No	
7/25/2021	0.021	0.021	No	No	
7/26/2021	0.025	0.021	No	No	
7/27/2021	0.022	0.021	No	No	
7/28/2021	0.024	0.021	No	No	
7/29/2021	0.022	0.021	No	No	
7/30/2021	0.024	0.021	No	No	
7/31/2021	0.025	0.021	No	No	
8/1/2021	0.024	0.021	No	No	
8/2/2021	0.026	0.021	No	No	
8/3/2021	0.026	0.022	No	No	
8/4/2021	0.026	0.022	No	No	
8/5/2021	0.026	0.022	No	No	
8/6/2021	0.026	0.022	No	No	
8/7/2021	0.025	0.022	No	No	
8/8/2021	0.025	0.022	No	No	
8/9/2021	0.028	0.022	No	No	
8/10/2021	0.032	0.023	No	No	
8/11/2021	0.031	0.023	No	No	
8/12/2021	0.031	0.023	No	No	
8/13/2021	0.029	0.023	No	No	
8/14/2021	0.029	0.024	No	No	
8/15/2021	0.030	0.024	No	No	
8/16/2021	0.025	0.024	No	No	
8/17/2021	0.021	0.024	No	No	
8/18/2021	0.021	0.024	No	No	
8/19/2021	0.019	0.024	No	No	
8/20/2021	0.018	0.024	No	No	
8/21/2021	0.017	0.024	No	No	
8/22/2021	0.017	0.024	No	No	
8/23/2021	0.018	0.024	No	No	
8/24/2021	0.018	0.024	No	No	
8/25/2021	0.018	0.024	No	No	

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
8/26/2021	0.021	0.024	No	No	
8/27/2021	0.022	0.024	No	No	
8/28/2021	0.022	0.024	No	No	
8/29/2021	0.023	0.024	No	No	
8/30/2021	0.023	0.024	No	No	
8/31/2021	0.024	0.024	No	No	
9/1/2021	0.025	0.024	No	No	
9/2/2021	0.020	0.024	No	No	
9/3/2021	0.020	0.023	No	No	
9/4/2021	0.021	0.023	No	No	
9/5/2021	0.017	0.023	No	No	
9/6/2021	0.018	0.023	No	No	
9/7/2021	0.019	0.023	No	No	
9/8/2021	0.023	0.022	No	No	
9/9/2021	0.023	0.022	No	No	
9/10/2021	0.024	0.022	No	No	
9/11/2021	0.023	0.023	No	No	
9/12/2021	0.022	0.023	No	No	
9/13/2021	0.023	0.023	No	No	
9/14/2021	0.024	0.022	No	No	
9/15/2021	0.022	0.022	No	No	
9/16/2021	0.022	0.022	No	No	
9/17/2021	0.022	0.022	No	No	
9/18/2021	0.021	0.022	No	No	
9/19/2021	0.019	0.021	No	No	
9/20/2021	0.020	0.021	No	No	
9/21/2021	0.020	0.021	No	No	
9/22/2021	0.025	0.021	No	No	
9/23/2021	0.026	0.022	No	No	
9/24/2021	0.029	0.022	No	No	
9/25/2021	0.028	0.022	No	No	
9/26/2021	0.028	0.022	No	No	
9/27/2021	0.027	0.023	No	No	
9/28/2021	0.023	0.023	No	No	
9/29/2021	0.024	0.023	No	No	
9/30/2021	0.024	0.023	No	No	

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** July 1, 2021 **To:** October 1, 2021

Company: BP-Husky Refining LLC

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Monitor Location: Sample port on West Alstom Boiler Stack; monitor housed at ground level in an analyzer building adjacent the boiler.

Date of Latest CMS Certification or Audit: 7/29/2021

Process Unit(s) Description: West Alstom Boiler (0448020007B035)

Total Source Operating Time in Reporting Period: 2,208 hr (TIU fuel gas was combusted for 2,208 hours and natural gas was combusted for 0 hours for a total of 2,208 hours this quarter)

CMS operating time while emission unit was in operation: 2,208 hr

Emission Limitation: 12.71 lb/hr of NO_x emissions;
38.5 tons/rolling 12-month period of NO_x emissions (combined B034 & B035);
0.10 lb NO_x (as NO_2) per mmBtu heat input 30-day rolling average

Emission Data Summary		**CMS Perfomance Summary**	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - No changes since last quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen

Title: President - BP-Husky Refining LLC

Date: 29-Okt-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST ALSTOM BOILER NOx CEMS REPORT FOR 3RD QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
B035 - West Alstom Boiler	Yes	No	Continuous Monitoring System	No downtime or excess emissions during this reporting quarter.							

West Alstom Boiler - 3rd Quarter 2021 Db Data

NSPS Db: Supplemental Reporting for NO_x CEM Records as required by 40 CFR 49b(i)

This table contains the information required by 60.49(g)(1-8).
Records for (g)(9-10) are provided in the NSPS Quarterly CEMS Report.

West Alstom Boiler (B035): 353 MMBtu/hr heater fired with refinery fuel gas and/or natural gas

Calculation Methodology: NO_x emissions (lb/mmbtu) calculated from NO_x CEM (ppm) using Methodology in 40 CFR 60 Appendix A Method 19 and F factor of 8710 dscf/mmbtu from Method 19 Table 19-1 when natural gas fired; site-specific F factor determined from fuel analysis when refinery fuel gas fired.

NSPS Limit: 0.10 lb NO_x/MMBtu

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
7/1/2021	0.024	0.021	No	No	
7/2/2021	0.026	0.022	No	No	
7/3/2021	0.025	0.022	No	No	
7/4/2021	0.023	0.022	No	No	
7/5/2021	0.022	0.022	No	No	
7/6/2021	0.023	0.022	No	No	
7/7/2021	0.023	0.022	No	No	
7/8/2021	0.022	0.022	No	No	
7/9/2021	0.021	0.022	No	No	
7/10/2021	0.021	0.022	No	No	
7/11/2021	0.021	0.021	No	No	
7/12/2021	0.021	0.021	No	No	
7/13/2021	0.021	0.021	No	No	
7/14/2021	0.021	0.020	No	No	
7/15/2021	0.021	0.020	No	No	
7/16/2021	0.021	0.019	No	No	
7/17/2021	0.021	0.019	No	No	
7/18/2021	0.021	0.018	No	No	
7/19/2021	0.021	0.018	No	No	
7/20/2021	0.021	0.017	No	No	
7/21/2021	0.021	0.016	No	No	
7/22/2021	0.021	0.015	No	No	
7/23/2021	0.021	0.014	No	No	
7/24/2021	0.021	0.014	No	No	
7/25/2021	0.021	0.013	No	No	
7/26/2021	0.024	0.013	No	No	
7/27/2021	0.019	0.013	No	No	
7/28/2021	0.031	0.013	No	No	
7/29/2021	0.019	0.013	No	No	
7/30/2021	0.019	0.013	No	No	
7/31/2021	0.020	0.013	No	No	
8/1/2021	0.022	0.013	No	No	
8/2/2021	0.023	0.012	No	No	
8/3/2021	0.022	0.012	No	No	
8/4/2021	0.020	0.012	No	No	
8/5/2021	0.020	0.012	No	No	
8/6/2021	0.020	0.012	No	No	
8/7/2021	0.019	0.012	No	No	
8/8/2021	0.018	0.012	No	No	
8/9/2021	0.023	0.012	No	No	
8/10/2021	0.033	0.012	No	No	
8/11/2021	0.028	0.013	No	No	
8/12/2021	0.029	0.014	No	No	
8/13/2021	0.032	0.015	No	No	
8/14/2021	0.034	0.016	No	No	
8/15/2021	0.033	0.017	No	No	
8/16/2021	0.029	0.018	No	No	
8/17/2021	0.024	0.019	No	No	
8/18/2021	0.023	0.020	No	No	
8/19/2021	0.025	0.020	No	No	
8/20/2021	0.020	0.021	No	No	
8/21/2021	0.019	0.022	No	No	
8/22/2021	0.017	0.022	No	No	
8/23/2021	0.019	0.023	No	No	
8/24/2021	0.020	0.024	No	No	
8/25/2021	0.021	0.023	No	No	
8/26/2021	0.022	0.023	No	No	

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
8/27/2021	0.021	0.023	No	No	
8/28/2021	0.021	0.023	No	No	
8/29/2021	0.024	0.023	No	No	
8/30/2021	0.026	0.024	No	No	
8/31/2021	0.027	0.024	No	No	
9/1/2021	0.027	0.024	No	No	
9/2/2021	0.021	0.024	No	No	
9/3/2021	0.020	0.024	No	No	
9/4/2021	0.019	0.024	No	No	
9/5/2021	0.019	0.024	No	No	
9/6/2021	0.019	0.024	No	No	
9/7/2021	0.018	0.024	No	No	
9/8/2021	0.020	0.024	No	No	
9/9/2021	0.021	0.023	No	No	
9/10/2021	0.021	0.023	No	No	
9/11/2021	0.020	0.023	No	No	
9/12/2021	0.020	0.022	No	No	
9/13/2021	0.021	0.022	No	No	
9/14/2021	0.021	0.021	No	No	
9/15/2021	0.021	0.021	No	No	
9/16/2021	0.020	0.021	No	No	
9/17/2021	0.020	0.021	No	No	
9/18/2021	0.020	0.021	No	No	
9/19/2021	0.019	0.021	No	No	
9/20/2021	0.019	0.021	No	No	
9/21/2021	0.019	0.021	No	No	
9/22/2021	0.024	0.021	No	No	
9/23/2021	0.025	0.021	No	No	
9/24/2021	0.023	0.021	No	No	
9/25/2021	0.022	0.021	No	No	
9/26/2021	0.021	0.021	No	No	
9/27/2021	0.021	0.021	No	No	
9/28/2021	0.021	0.021	No	No	
9/29/2021	0.022	0.021	No	No	
9/30/2021	0.021	0.021	No	No	

Attachment B – Data Assessment Report

Data Assessment Report - East Side Fuel Gas Mix Drum H_2S CMS

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B008, B009, B010

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30028039490020
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* East Side Fuel Gas Mix Drum	

CEMS span values as per the applicable regulation:

	PPM		Percent
SO_2		**O_2**	
H_2S	300	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H_2S (ppm):

	H2S (ppm)	
	Audit #1	Audit #2
1. Date of audit	8/31/2021	8/31/2021
2. Cylinder ID number	CC416478	CC482384
Vendor	AirGas	AirGas
3. Date of certification	12/8/2020	11/11/2019
Expiration date	12/8/2023	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.18	163.50
6. CEMS response values	78.90	167.07
	74.87	164.32
	74.87	164.96
Average	76.21	165.45
7. Accuracy	2.74%	1.19%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - TIU Fuel Gas Mix Drum H_2S CMS

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30020117999300
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* TIU Fuel Gas Mix Drum	

CEMS span values as per the applicable regulation:

	PPM		Percent
SO_2		O_2	
H_2S	300	CO_2	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H_2S (ppm):

	H2S (ppm)	
	Audit #1	Audit #2
1. Date of audit	8/31/2021	8/31/2021
2. Cylinder ID number	CC416478	CC482384
Vendor	AirGas	AirGas
3. Date of certification	12/8/2020	11/11/2019
Expiration date	12/8/2023	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.18	163.50
6. CEMS response values	72.90	163.52
	73.87	164.32
	76.85	184.16
Average	74.54	170.67
7. Accuracy	0.49%	4.39%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - Reformer 3 Heater H_2S CMS

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B036

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30029994471080
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* Reformer 3 Heater Fuel Gas	

CEMS span values as per the applicable regulation:

	PPM		Percent
SO_2		O_2	
H_2S	300	CO_2	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H_2S (ppm):

	H2S (ppm)	
	Audit #1	Audit #2
1. Date of audit	8/31/2021	8/31/2021
2. Cylinder ID number	CC416478	CC482384
Vendor	AirGas	AirGas
3. Date of certification	12/8/2020	11/11/2019
Expiration date	12/8/2023	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.18	163.50
6. CEMS response values	77.77	166.04
	81.21	165.81
	77.40	160.61
Average	78.79	164.15
7. Accuracy	6.21%	0.40%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - East Flare H_2S CMS

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P003

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30050531960100
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* East Flare	

CEMS span values as per the applicable regulation:

	PPM		**Percent**
SO_2		**O_2**	
H_2S	300	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H_2S (ppm):

	H2S (ppm)	
	Audit #1	Audit #2
1. Date of audit	8/9/2021	8/9/2021
2. Cylinder ID number	CC416478	CC482384
Vendor	AirGas	AirGas
3. Date of certification	12/8/2020	11/11/2019
Expiration date	12/8/2023	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.18	163.50
6. CEMS response values	74.50	166.25
	76.18	165.50
	75.04	165.17
Average	75.24	165.64
7. Accuracy	1.43%	1.31%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - West Flare H_2S CMS

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P004

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30050531960400
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* West Flare	

CEMS span values as per the applicable regulation:

	PPM		**Percent**
SO_2		**O_2**	
H_2S	300	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H_2S (ppm):

	H2S (ppm)	
	Audit #1	Audit #2
1. Date of audit	8/10/2021	8/10/2021
2. Cylinder ID number	CC416478	CC482384
Vendor	AirGas	AirGas
3. Date of certification	12/8/2020	11/11/2019
Expiration date	12/8/2023	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.18	163.50
6. CEMS response values	71.80	163.80
	74.90	160.20
	74.90	163.80
Average	73.87	162.60
7. Accuracy	-0.42%	-0.55%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - East Flare TS CMS

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P003

CEMS Manufacturer: ThermoFisher	*Model #:* Sola II	*CEMS Serial #:* SL-10430115
CEMS type: Total Sulfur	*CEMS sampling location:* East Flare	

CEMS span values as per the applicable regulation:

	PPM		
TS (low)	3,500		
TS (high)	350,000		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for TS Low (ppm) and TS High (ppm):

	TS Low		**TS High**	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	8/23/2021	8/23/2021	8/23/2021	8/23/2021
2. Cylinder ID number	CC427785	CC269487	CC121778	AA073391
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	3/13/2019	4/27/2021	3/18/2019	3/7/2019
Expiration date	3/13/2022	4/27/2024	3/18/2022	3/7/2027
4. Type of certification	RATA Class	RATA Class	RATA Class	EPA Protocol
5. Certified audit value	884.0	1,931	87,110	192,500
6. CEMS response values	916.8	1,947	87,050	191,553
	906.6	1,975	87,601	191,542
	898.6	1,950	87,766	191,675
Average	907.3	1,957.3	87,472	191,590
7. Accuracy	2.64%	1.36%	0.42%	-0.47%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - West Flare TS CMS

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P004

CEMS Manufacturer: ThermoFisher	*Model #:* Sola II	*CEMS Serial #:* SL-10440115
CEMS type: Total Sulfur	*CEMS sampling location:* West Flare	

CEMS span values as per the applicable regulation:

	PPM		
TS (low)	3,500		
TS (high)	350,000		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for TS Low (ppm) and TS High (ppm):

	TS Low		TS High	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	8/24/2021	8/24/2021	8/24/2021	8/24/2021
2. Cylinder ID number	CC315721	CC75507	CC62361	XC033782B
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	3/13/2019	12/22/2020	3/18/2019	10/21/2020
Expiration date	3/13/2022	12/22/2023	3/18/2027	10/21/2021
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	884.3	1,957.0	86,970	192,300
6. CEMS response values	873.6	1,919.0	89,576	193,577
	872.0	1,910.7	89,861	193,648
	878.2	1,930.8	89,537	194,672
Average	874.6	1,920.2	89,658	193,966
7. Accuracy	-1.10%	-1.88%	3.09%	0.87%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – TIU Fuel Gas Mix Drum TS CMS

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007

CEMS Manufacturer: ThermoFisher	*Model #:* Sola II	*CEMS Serial #:* SL-09030713
CEMS type: Total Sulfur	*CEMS sampling location:* TIU Fuel Gas Mix Drum	
CEMS span values as per the applicable regulation:		

	PPM		
TS	3,500		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for:

	TS (ppm)	
	Audit #1	Audit #2
1. Date of audit	9/1/2021	9/1/2021
2. Cylinder ID number	CC338715	CC218822
Vendor	Airgas	Airgas
3. Date of certification	3/13/2019	3/31/2020
Expiration date	3/13/2022	3/31/2023
4. Type of certification	RATA Class	RATA Class
5. Certified audit value	884.70	1844.00
6. CEMS response values	846.80	1889.30
	847.80	1876.80
	847.10	1867.20
Average	847.23	1877.77
7. Accuracy	-4.24%	1.83%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - Reformer 3 Heater NO_x/O_2 CEM

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B036

O_2 CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 3.340932.7
NO_x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 3.340287.1
CEMS sampling location: Reformer 3 Heater stack		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2		**O_2**	25
NO_x	200	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for O2 (%) and NOx (ppm):

	O2 (%)		NOx (ppm)	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	8/6/2021	8/6/2021	8/6/2021	8/6/2021
2. Cylinder ID number	CC278207	BLM001313	BLM003126	LL10026
Vendor	Airgas	Scott	Scott	Airgas
3. Date of certification	11/20/2017	11/12/2013	10/21/2013	11/12/2019
Expiration date	11/20/2025	11/13/2021	10/22/2021	11/12/2027
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.97	13.90	50.40	117.20
6. CEMS response values	5.97	13.94	44.96	115.24
	6.04	13.97	45.09	115.91
	6.06	13.98	45.13	115.55
Average	6.02	13.96	45.06	115.57
7. Accuracy	0.84%	0.43%	-10.60%	-1.39%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.
1. Out-of-control periods: None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – East Alstom Boiler NO_x/O_2 CEM

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B034

O_2 CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 00400003357006
NO_x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 00400003362206
CEMS sampling location: East Alstom Boiler stack		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2		**O_2**	20.0
NO_x	100	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audits (RATAs): (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%):

	O_2		
	Audit #1	Audit #2	Audit #3
1. Date of audit	7/20/2021	7/20/2021	7/20/2021
2. Cylinder ID number	BLM005117	BAL5136	XC017553B
Vendor	Airgas	Air Liquide	Airgas
3. Date of certification	5/22/2020	8/30/2020	5/13/2020
Expiration date	5/22/2028	8/30/2024	5/13/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.55	11.00	18.02
6. CEMS response values	5.49	11.05	18.13
	5.51	11.06	18.13
	5.51	11.06	18.13
Average:	5.50	11.06	18.13
7. Accuracy	-0.90%	0.55%	0.61%

Cylinder gas audit (CGA) for NO_x (ppm):

	NO_x		
	Audit #1	Audit #2	Audit #3
1. Date of audit	7/20/2021	7/20/2021	7/20/2021
2. Cylinder ID number	BAL5293	XL000366B	CC268000
Vendor	Air Liquide	Airgas	Airgas
3. Date of certification	11/2/2018	11/21/2017	2/3/2020
Expiration date	11/2/2021	11/21/2025	2/3/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	23.53	54.79	91.02
6. CEMS response values	23.45	54.62	90.02
	23.69	54.83	90.25
	23.78	54.59	89.74
Average:	23.64	54.68	90.00
7. Accuracy	0.47%	-0.20%	-1.12%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – West Alstom Boiler NO_x/O_2 CEM

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B035

O_2 CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 00400003354606
NO_x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 00400003361106
CEMS sampling location: West Alstom Boiler stack		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2		**O_2**	20.0
NO_x	100	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audits (RATAs): (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%):

	O_2		
	Audit #1	Audit #2	Audit #3
1. Date of audit	7/29/2021	7/29/2021	7/29/2021
2. Cylinder ID number	BLM005117	BAL5136	XC017553B
Vendor	Airgas	Air Liquide	Airgas
3. Date of certification	5/22/2020	8/30/2020	5/13/2020
Expiration date	5/22/2028	8/30/2024	5/13/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.55	11	18.02
6. CEMS response values	5.51	11.04	18.02
	5.52	11.04	18.01
	5.52	11.04	18.02
Average:	5.52	11.04	18.02
7. Accuracy	-0.54%	0.36%	0.00%

B. Cylinder gas audit (CGA) for NO_x (ppm):

	NO_x		
	Audit #1	Audit #2	Audit #3
1. Date of audit	7/29/2021	7/29/2021	7/29/2021
2. Cylinder ID number	BAL5293	XL000366B	CC268000
Vendor	Air Liquide	Airgas	Airgas
3. Date of certification	11/2/2018	11/21/2017	2/3/2020
Expiration date	11/2/2021	11/21/2025	2/3/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	23.53	54.79	91.02
6. CEMS response values	23.86	54.50	90.19
	23.42	54.95	90.29
	24.38	54.81	91.33
Average:	23.89	54.75	90.60
7. Accuracy	1.53%	-0.07%	-0.46%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – FCC/CO Boiler $SO_2/NO_x/CO/O_2$ CEM

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P007

O_2 CEMS Manufacturer: ABB	Model #: Magnos 106	CEMS Serial # 3.340569.7
SO_2 CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.340641.7
NO_x CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.340641.7
CO CEMS Manufacturer: ABB Automation	Model #: URAS- 26	CEMS Serial # 3.347698.3
CEMS sampling location: CO Boiler stack		
CEMS span values as per the applicable regulation:		

SO_2	400 PPM	**O_2**	10.0 %
NO_x	350 PPM	**CO**	1000 PPM

I. <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audits (RATAs): (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%) and SO_2 (ppm):

	O_2 (percent)		**SO_2 (ppm)**	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	8/11/2021	8/11/2021	8/11/2021	8/11/2021
2. Cylinder ID number	ALM001730	CC423357	ALM001730	CC423357
Vendor	Scott	Airgas	Scott	Airgas
3. Date of certification	2/14/2017	2/14/2017	2/14/2017	2/14/2017
Expiration date	2/14/2025	2/14/2025	2/14/2025	2/14/2025
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	2.49	5.53	98.98	219.40
6. CEMS response values	2.35	5.38	102.72	219.57
	2.35	5.38	105.30	222.21
	2.33	5.37	106.17	223.77
Average	2.34	5.38	104.73	221.85
7. Accuracy	-6.02%	-2.71%	5.81%	1.12%

B. Cylinder gas audit (CGA) for NO_x (ppm) and CO (ppm):

	NO_x (ppm)		CO (ppm)	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	8/11/2021	8/11/2021	8/11/2021	8/11/2021
2. Cylinder ID number	XC030834B	CC222300	XC030834B	CC222300
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	2/14/2017	2/14/2017	2/14/2017	2/14/2017
Expiration date	2/14/2025	2/14/2025	2/14/2025	2/14/2025
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	80.86	187.80	249.50	551.00
6. CEMS response values	81.37	180.21	249.64	550.56
	84.74	179.76	250.33	551.07
	84.21	177.23	250.54	551.83
Average	83.44	179.07	250.17	551.15
7. Accuracy	3.19%	-4.65%	0.27%	0.03%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – FCC Regen Line $SO_2/NO_x/CO/O_2/CO_2$ CEM

Period ending date: September 30 **Year:** 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P007

SO_2 CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240685.3
NO_x CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240682.3
CO CEMS Manufacturer: ABB	Model #: URAS 14	CEMS Serial # 3.240684.3
O_2 CEMS Manufacturer: ABB	Model #: Magnos 206	CEMS Serial # 01400101195301
CO_2 CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240682.3
CEMS sampling location: FCC Regen Line stack		
CEMS span values as per the applicable regulation:		

SO_2	500 PPM	**O_2**	25.0 %
NOx	200 PPM	**CO**	1000 PPM
CO_2	50.0 %		

I. <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA): (Not applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%) and SO_2 (ppm):

	O_2 (percent)		**SO_2 (ppm)**	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	8/11/2021	8/11/2021	8/11/2021	8/11/2021
2. Cylinder ID number	XL001104B	BLM004046	CC443275	CC82139
Vendor	Airgas	Scott	Airgas	Airgas
3. Date of certification	11/20/2017	11/19/2015	11/21/2017	11/21/2017
Expiration date	11/20/2025	11/20/2023	11/21/2025	11/21/2025
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.49	13.90	130.70	267.60
6. CEMS response values	5.46	14.07	129.12	272.16
	5.51	14.09	131.54	274.00
	5.51	14.08	132.30	275.01
Average	5.49	14.08	130.99	273.72
7. Accuracy	0.00%	1.29%	0.22%	2.29%

B. Cylinder gas audit (CGA) for NO_x (ppm) and CO (ppm):

	NO_x (ppm)		CO (ppm)	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	8/11/2021	8/11/2021	8/11/2021	8/11/2021
2. Cylinder ID number	LL34302	BAL3120	XL002639B	BAL3034
Vendor	Airgas	Air Liquide	Airgas	Scott
3. Date of certification	11/21/2017	8/12/2014	11/6/2017	11/12/2013
Expiration date	11/21/2025	8/13/2022	11/6/2025	11/13/2021
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	54.90	116.00	277.60	543.00
6. CEMS response values	54.49	112.99	278.22	539.56
	53.92	112.16	278.55	539.89
	53.47	113.25	278.77	540.18
Average	53.96	112.80	278.51	539.88
7. Accuracy	-1.71%	-2.76%	0.33%	-0.57%

B. Cylinder gas audit (CGA) for CO_2 (ppm):

	CO_2 (ppm)	
	Audit #1	Audit #2
1. Date of audit	8/11/2021	8/11/2021
2. Cylinder ID number	ALM063125	CC472694
Vendor	Scott	Scott
3. Date of certification	9/24/2018	9/24/2018
Expiration date	9/24/2026	9/24/2026
4. Type of certification	RATA Class	RATA Class
5. Certified audit value	13.11	27.20
6. CEMS response values	13.78	27.94
	13.87	27.97
	13.89	27.99
Average	13.85	27.97
7. Accuracy	5.64%	2.83%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – Sulfur Recovery Unit (SRU #1)
SO_2/O_2 CEM

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P009

SO_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZB-919SP-10541-1
O_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZB-919SP-10541-1
CEMS sampling location: SRU Thermal Oxidizer		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2	500	**O_2**	10.0
NO_x		**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audits (RATAs): (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%) and SO_2 (ppm):

	O_2 percent		SO_2 ppm	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	8/2/2021	8/2/2021	8/2/2021	8/2/2021
2. Cylinder ID number	ALM028323	CC13867	XC006260B	ALM004131
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	2/6/2017	11/20/2017	2/24/2017	2/14/2017
Expiration date	2/6/2025	11/20/2025	2/24/2025	2/14/2025
4. Type of certification	RATA Class	RATA Class	RATA Class	EPA Protocol
5. Certified audit value	2.52	5.98	124.00	268.70
6. CEMS response values	2.63	6.14	115.48	259.68
	2.65	6.15	122.95	265.48
	2.65	6.15	120.97	265.78
Average	2.64	6.15	119.80	263.65
7. Accuracy	4.76%	2.84%	-3.39%	-1.88%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.
1. Out-of-control periods.
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – Sulfur Recovery Unit #2 and #3 (TRP SRU) SO_2/O_2 CEM

Period ending date: September 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P037

SO_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZX-919-10814-1
O_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZX-919-10814-1
CEMS sampling location: TGT #2 Thermal Oxidizer stack		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2	500	**O_2**	10.0
NO_x		**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audits (RATAs): (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%) and SO_2 (ppm):

	O_2 percent		SO_2 ppm	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	8/2/2021	8/2/2021	8/2/2021	8/2/2021
2. Cylinder ID number	ALM028323	CC13867	XC006260B	ALM004131
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	2/6/2017	11/20/2017	2/24/2017	2/14/2017
Expiration date	2/6/2025	11/20/2025	2/24/2025	2/14/2025
4. Type of certification	RATA Class	RATA Class	RATA Class	EPA Protocol
5. Certified audit value	2.52	5.98	124.00	268.70
6. CEMS response values	2.48	5.96	123.41	265.17
	2.50	5.96	130.89	268.99
	2.50	5.95	133.03	267.77
Average	2.49	5.96	129.11	267.31
7. Accuracy	-1.19%	-0.33%	4.12%	-0.52%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.
1. Out-of-control periods.
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Table B1 - Calibration Drift Assessment; Out-of-Control Periods for Part 60

CEMS	Start Time	End Time	Hours	Corrective Action Taken
East Flare TS	8/23/2021 8:00	8/24/2021 9:00	25	Analyzer was recalibrated and returned to service.

Table B2 – Calibration Drift Assessment; Out-of-Control Periods for Part 63

CEMS	Start Time	End Time	Hours	Corrective Action Taken
N/A				

Per 40 CFR Part 63.8(c)(7)(i), a CMS is out of control if the zero, mid-level, or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard. These instances are reported in Table B2 above.